A PRIMITIVE TYPE OF AGELACRINITES FROM THE RICHMOND.

W. H. SHIDELER.

Straight rays with a rather definite trimeric arrangement are found in the very young of several species of Agelacrinites having normally curved rays in the adult stage, but are unknown in any other adult species above the Trenton.

A primitive species of this type having straight ambulacral rays with almost parallel sides and blunted ends was found in the "pebble layer" in the basal Whitewater beds of the Richmond in Adams County, Ohio, and also upon Strophomena, etc., in the top of the Liberty beds in Adams County and on Flat Fork, near Oregonia, Warren County, Ohio. The specific name rectiradiatus is proposed because of the straight condition of the rays.

In the largest specimen, 17 mm. in diameter, the rays are composed of 15 pairs of rather narrow, alternating covering plates (Plate V, Fig. 30, of the following paper by Dr. S. R. Williams), while a 6 mm. individual has 9 pairs (Plate V, Fig. 29). No other series of covering plates was seen.

The largest individual is from the basal Whitewater of Elk Run, east of Winchester, Ohio, and is in the collection of Prof. S. R. Williams. The smaller specimen is from the top of the Liberty or Cherry Fork, south of Harshaville.

Agelacrinites rectiradiatus n. sp.

Outer plates of peripheral ring two or three rows of small vertically elongate plates. Inner plates of peripheral ring two rows of quite large broad plates. Ambulacral rays (food grooves) not curved, but straight and instead of tapering down evenly, the ends of the rays are blunt and the sides nearly parallel. Each pair of lateral rays united before reaching the center, thus giving the (primitive) trimeric arrangement of the food grooves. This, together with the straight arms, produces an unusually large posterior inter-radial space. Mouth plates three, one large plate abutting the posterior inter-space, angularly emarginated anteriorly. Fitting into this emargination and obviously a continuation of the covering plates of the anterior arm a pair of anterior peristomial plates. Anus appears to consist of a single row of six angular plates. Inter-radial plates on smaller specimens much smaller and seemingly more numerous than on the larger specimens. Plates very distinctly and evenly pitted with larger depressions than those found on the plates of A. pileus. Flooring plates very delicate, probably one for each pair of cover plates.